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REMARKS

The application has been amended to correct the cited informalities, to distinguish the claimed invention over the cited prior art, and to place the application, as a whole, into *prima facie* condition for allowance at this time. Substantial care has been taken to avoid the introduction of any new subject matter into the application as a result of the foregoing amendments.

Claims 1 - 4 have been rejected under 35 U.S.C. §103(a) as being unpatentable over *Nygård*, US 6,857,832 B2 in view of *Greene*, US 4,529,341. Claims 5 and 6 have been rejected under 35 U.S.C. §103(a) as being unpatentable over *Nygård*, US 6,857,832 B2 in view of *Greene*, US 4,529,341, and further in view of *Crisp*, US 2,769,355. Claims 7 and 8 - 11 have been rejected under 35 U.S.C. §103(a) as being unpatentable over *Nygård*, US 6,857,832 B2 in view of *Greene*, US 4,529,341, and *Crisp*, US 2,769,355, and further in view of *Guehring et al.*, US 6,213,692. Applicant respectfully traverses the Examiner's substantive bases for rejection of the claims.

Independent claims 1 and 8 have been amended to include the limitation that the axial relief surfaces intersect the extreme tip of the drill, and extend to radially outwardmost positions on the drill body. Applicant respectfully submits that complete support for this amendment is clearly shown in Figs. 11, 12 and 13. Accordingly, entry and acceptance of these amendments to claims 1 and 8 are respectfully solicited.

As an initial matter, Applicant respectfully traverses the Examiner's combination of the cited references as being inappropriate. With respect to the Examiner's rejection of independent claims 1 and 3, under 35 U.S.C. 103(a) based on the *Nygård*, US 6,857,832 B2 and *Greene*, US 4,529,341 patent references, Applicant respectfully submits that the Examiner's purported combination of these references is improper.

Two or more references may not be combined to support an assertion of obviousness of a claimed invention absent a teaching or suggestion to their combination. Further, two or more references may not be properly combined, if to do so would frustrate the functions, goals or purposes of one or more of the respective references.

Specifically, Applicant respectfully submits that the *Nygård*, US 6,857,832 B2 and *Greene*, US 4,529,341 patent references may not be combined, in the manner proposed by the Examiner for the simple fact that the structure of the drill bit disclosed in the *Nygård*, US 6,857,832 B2 patent simply may not be modified by the teachings of the *Greene*, US 4,529,341 patent reference, in the manner proposed by the Examiner.

This relates to a representation which the Examiner made in the presently pending office action, with respect to certain arguments presented by Applicant in the prior Amendment and Communication after Final Action. In that communication, Applicant submitted (in response to a rejection under 35 U.S.C. §102 based on *Nygård*, US 6,857,832 B2) that that reference could not be modified so as to incorporate axial relief surfaces which extend to the extreme tip of the drill bit. In the presently pending office action, the Examiner stated that the foregoing argument was not persuasive because "it [the *Nygård*, US 6,857,832 B2 reference] does not state that these sides [of the pilot tip] were critical such that they cannot be modified to intersect the tip as is disclosed by the sides 40 in *Greene*". Applicant respectfully submits that this is incorrect.

Applicant respectfully directs the Examiner's attention to col. 2, lines 16 - 17 and 24 - 25; and col. 4, ll. 7 - 12, all of *Nygård*, US 6,857,832 B2, wherein it is clearly emphasized that the sides 7 of tip 2 define an angle η between the side 7 and plane B (extending perpendicular to the longitudinal axis of the drill bit body) of $90^\circ \pm 2^\circ$. As such, there is no practical possibility, without extending the length of the drill bit to ridiculous extremes, that sides 7 will intersect at all, let alone at the tip, and only then if the angles η are greater than 90° . Clearly, the intent of the *Nygård*, US 6,857,832 B2 reference is to have the sides 7 be essentially parallel to one another and perpendicular to plane B (the $\pm 2^\circ$ doubtless being provided to accommodate variations owing to manufacturing tolerances). As such, it is clear that the *Nygård*, US 6,857,832 B2 reference teaches against modification of its tip to have axial relief surfaces intersecting the extreme tip. Therefore, to modify that reference in the manner suggested by the Examiner would serve to frustrate the goals and objectives of the *Nygård*, US 6,857,832 B2 reference. Accordingly, the *Nygård*, US 6,857,832 B2 reference cannot be modified

by combination with the *Greene*, US 4,529,341 patent reference. Therefore, Applicant respectfully submits that the Examiner's proposed combination is improper and may not be used to serve as a basis for rejection of claim 1. For the foregoing reasons, reconsideration and withdrawal of the rejection of claim 1 based on the cited combination of references are respectfully solicited.

Applicant submits that even if the *Nygård*, US 6,857,832 B2 and *Greene*, US 4,529,341 patent references could be combined, which combination Applicant respectfully submits is improper and against the teachings of the respective references, the resultant structure would not teach or suggest the particular combination of structural features set forth in Applicant's amended claim 1.

The surfaces 38 in the *Greene*, US 4,529,341 patent reference which the Examiner is asserting represent "axial relief surfaces" are not axial relief surfaces as defined by Applicant's disclosure. Applicant's amended Claim 1 clearly defines the axial relief surfaces as being "planar" and **"separated from the leading edges of the spur structures by one or more planar cutting edge surfaces"**, wherein the axial relief surfaces are disposed at a separate, substantially steeper angle, relative to a plane perpendicular to the longitudinal axis of the twist drill, than the one or more planar cutting edge surfaces." Surfaces 38 of the *Greene* reference are **not** separated from the leading edges of the spur structures and therefore by definition are not "axial relief surfaces". Further, surfaces 38 are not planar. To the extent that the Examiner intended to refer to surfaces 38b as being the "axial relief surfaces" intended to be combined with the teachings of the *Nygård*, US 6,857,832 B2 reference, surfaces 38b likewise are not planar (see Fig. 2a), nor do they extend from the extreme tip "radially outwardly, on the trailing surfaces of the lands, to radially outwardmost positions on the body".

In view of the foregoing, Applicant respectfully submits that even if the *Nygård*, US 6,857,832 B2 and *Greene*, US 4,529,341 patent references could be combined, which combination Applicant respectfully submits is improper, the combination would not result in a structure which even remotely teaches or suggests the patentably distinguishing structure and mode of operation of amended claim 1 (and claim 8, which

contains the same limitation set forth above). Accordingly, Applicant respectfully submits that the Examiner's basis for rejection of claim 1 should be deemed overcome, and that claim 1 patentably distinguishes over the cited prior art references. Reconsideration and withdrawal of the rejection of claim 1, and allowance thereof, are respectfully solicited.

Inasmuch as neither the *Crisp*, US 2,769,355, nor the *Guehring et al.*, US 6,213,692 patent references has any structure even remotely resembling axial relief surfaces, neither of these references can contribute any teachings or suggestions, which could be added to result in structure such as that claimed in amended claims 1 and 8. Accordingly, Applicant respectfully submits that the Examiner's basis for rejection of claim 8 should be deemed overcome, and that claim 1 patentably distinguishes over the cited prior art references. Reconsideration and withdrawal of the rejection of claim 8, and allowance thereof, are respectfully solicited.

Inasmuch as dependent claims 2 - 7 and 9 - 11 merely serve to further define the inventions of independent claims 1 and 8, respectively, which themselves should be deemed allowable, reconsideration and withdrawal of the rejections of claims 2 - 7 and 9 - 11, and allowance thereof, are respectfully solicited.

Applicant submits that the application as a whole, including all of claims 1 - 11, is in prima facie condition for allowance, and reconsideration and allowance of the application as a whole are respectfully solicited.


Should anything further be required, a telephone call to the undersigned, at
(312) 456-8400, is respectfully invited.

Respectfully submitted,
GREENBERG TRAURIG, LLP

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JAN 22 2007

Dated: January 22, 2007


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CERTIFICATE OF FACSIMILE TRANSMISSION

I hereby certify that this AMENDMENT AND COMMUNICATION is being transmitted via telecopier, to the United States Patent and Trademark Office, to the attention of Examiner Eric Andrew Gates, Art Unit 3722, to telecopier number 571-273-8300, on January 22, 2007.

